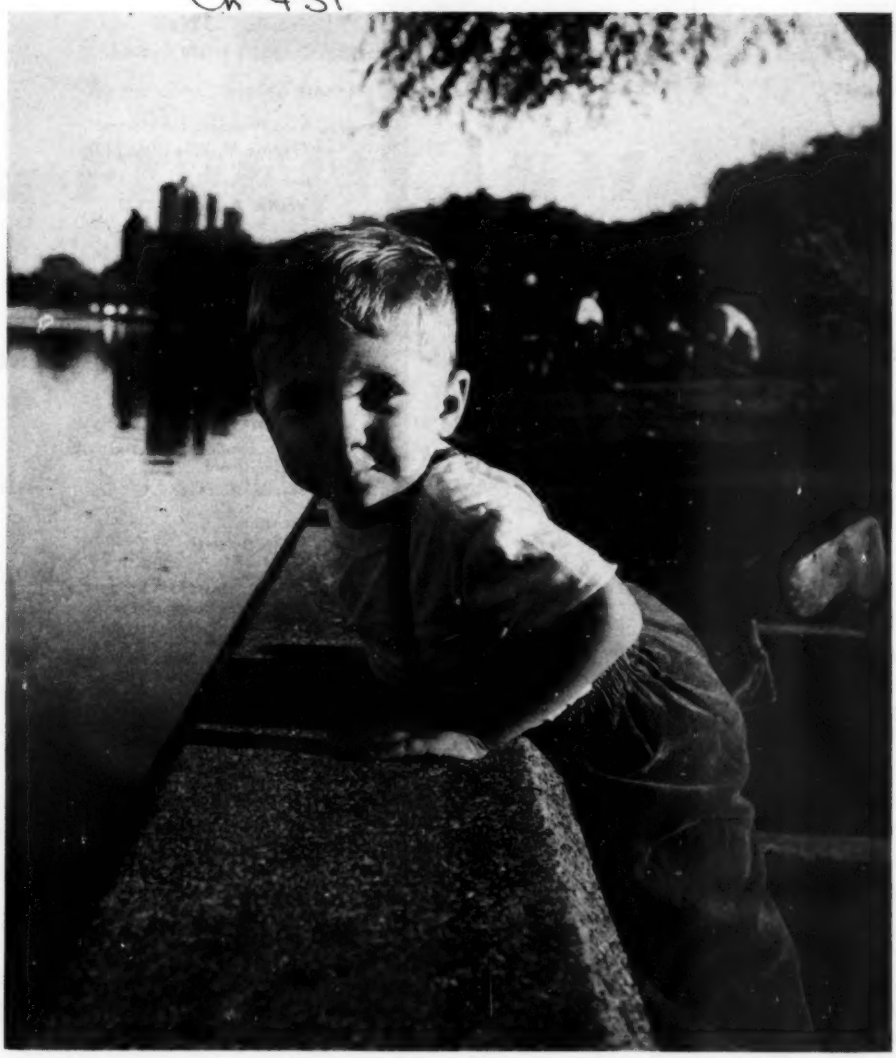
FILE COPY
MAR 1 1960

MARKED COPY

home safety

Review

Ch 431



SPRING 1960

WATER SAFETY CAMPAIGN
pages 11-22

Also:

A Fire Alarm for your home?

Kids who die on bikes

home safety Review

Spring 1960

Published by the NATIONAL SAFETY COUNCIL

for home safety program planners

Vol. 18 No. 1

A Fire Alarm for Your Home? 3

Quick Guide to Mushrooms 5

Kids Who Die on Bikes 6

They Call Him Jiminy Cricket 9

WATER SAFETY CAMPAIGN

How To Set Up a Water Safety Program 11

Look What Cleveland Did! 13

Everyone Can Be Drownproof 16

What Pool Owners Should Know 19

Rafts: Hazardous New Craze 21

Industry's Important Homework 23

Stick With the Ship! 25

How To Prevent Poisonings 27

DEPARTMENTS

Safety Clips 8

Letters 26

Facts and Figures 30

New Products 32

Editor
Jean Carper

Advisory Board

Philip Dykstra
Manager, Home Safety Department

Doris E. Mersdorf
Home Safety Consultant

Gordon O'Neill
Home Safety Engineer

Home Safety Conference

NSC Vice President for Homes:
George M. Wheatley, M.D.

Conference Chairman:
Walter A. Cutter, Ph.D.

Vice Chairman:
Howard Ennes

Home Building and Equipment Section Chairman:
Harold Horowitz

Health and Medical Section Chairman:
A. B. Rosenfield, M.D.

Community Service (Civic) Groups Section Chairman:
Stanley A. Mate

Staff Secretary:
Philip Dykstra

NATIONAL SAFETY COUNCIL
Chartered by the Congress of the United States
Home Office: 425 N. Michigan Ave., Chicago 11, Ill.

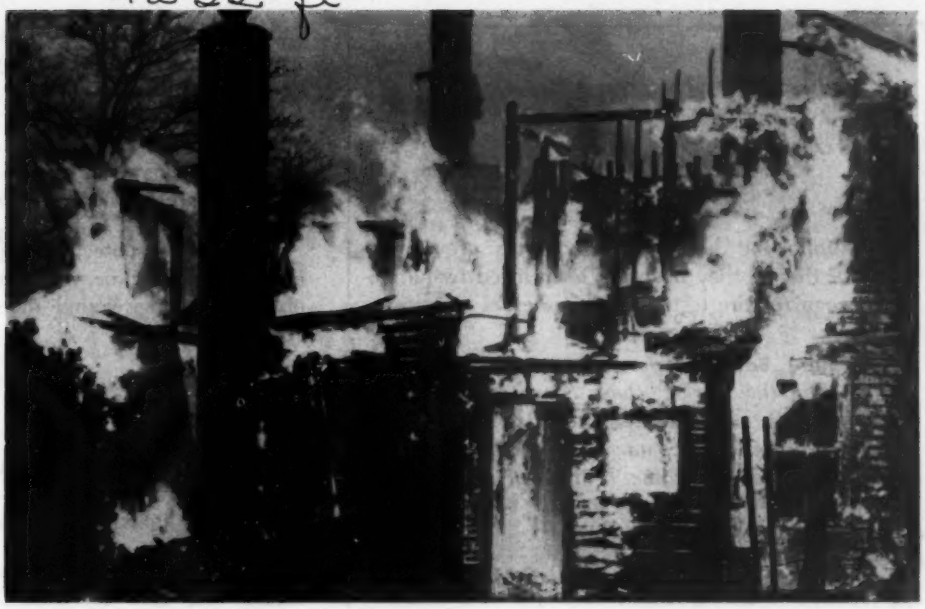
San Francisco Office: 703 Market St., San Francisco 3, Calif.

New York Offices:
Field Service & General Information, 60 E. 42nd St., New York 17, N. Y.

Public Service Fund, 639-40 Chrysler Bldg., New York 17, N. Y.

The **Home Safety Review** is published quarterly by the National Safety Council, 425 North Michigan Avenue, Chicago 11, Ill. Copyright 1960 by the National Safety Council. Printed in U.S.A. Subscription $2.60 per year. Permission to reprint contents with customary credit line is freely given unless otherwise stated. Photos and cartoons excepted. Statements and opinions advanced in signed articles are personal expressions of the authors, not necessarily those of the National Safety Council.

7a 22 fi



a FIRE ALARM for your home?

A top quality alarm may save your life. But beware junky devices, peddled by racketeers.

SOMETIME this year a smooth-talking salesman, peddling fire alarms, may call at your home. He will show you horror photos of charred bodies, mostly children, lying among debris that once was a house. He will point out these could be your family. As you register shock he will fast produce a flashy gadget–for only $5.95 or so–that will awaken you if your house catches fire. The alarm may be a buzzer, bell, whistle or simulated shotgun blast. But whatever it is, have nothing to do with it.

These gyp salesmen, preying on human fear of fire, are well known to Better Business Bureaus. Their wares are worthless or inadequate; some, hooked up to electrical wiring, actually kindle fires. The National Fire Protection Association brands these salesmen racketeers and consistently urges the public to rebuff them.

Ironically, despite their deficient product, these salesmen are pushing a tremendous idea–home fire alarms. A quality alarm system, correctly installed, would alert your family, allowing them time to escape from fire.

Fire is most likely to catch you at night while you are sleeping and spread undetected, sending poisonous gases up stairways and under door cracks. Gases and smoke, not flames, are top killers in a fire; they may asphyxiate you before you awake. A lungful of supercharged air will kill you instantaneously.

Typical is an early morning fire in Michigan last fall which killed four children. Firemen found their bodies lying on blackened bedsprings, indicating they were suffocated, without resistance, in their sleep.

Or you may be aroused by fire too late. Last November in Texas a young doctor and his wife, awakened by the smell of smoke, hurried to rescue three young daughters, sleeping in an opposite bedroom. The hallway was already filled with flames and smoke. The couple strove to penetrate the fire, but

Beware

"unapproved" alarms

The following kinds of fire alarms are "unapproved," that is, they have not been listed by nationally recognized fire testing laboratories.

• **Flashlight Battery Operated Buzzers.** *The most common on the market, these consist of two flashlight batteries which operate a buzzer when a bimetallic strip makes a contact. The reliability of these devices depends upon the heating of this metallic strip, the life of the batteries and the sound intensity of the buzzer.*

• **Electrical Plug-in Type.** *It is impossible to know whether these units are safely designed for installation in a home or even whether they might be the source of an electrical failure which could cause fire . . . Without laboratory test data there is no indication of what temperatures will operate the unit and most of the plug-in units have merely a buzzer integral with the unit . . . so there is no assurance the buzzer will be heard in other parts of the house. It may not have sufficient sound intensity.*

• **Aerosol Alarms.** *These are whistles mounted on top of small aerosol cans. Some sell for less than $5.00 and instructions indicate you are to hang a number of these devices in the home to get "an ideal, low cost, permanent fire alarm system." There is no data to determine whether a particular can retains its pressure so it will function, assuming the design does incorporate some kind of reliable heat sensitive element.*

Listed by George H. Tryon, III, NFPA assistant technical secretary, in the 1958 issue of *Firemen* magazine.

were driven back by overwhelming heat. Finally, they were forced to escape through a bedroom window, leaving their children to death.

Most fire victims die when they are trapped because of delayed discovery of fire or rapid spread of flames, according to a study of 1,000 fire deaths. This means nearly everyone could survive fire by detecting it soon enough. The only dependable detector is a home fire alarm system.

Such systems are of two kinds. One is a series of well-placed detector units, any one of which, if heated to a certain temperature, triggers an alarm, usually installed upstairs. The other is a single unit which both senses the fire and sounds the alarm. Obviously, you need several of these single units strategically placed in areas where fires are most likely to start.

Both kinds of detectors may have as a power source either electricity or compressed gas. You can also obtain a spring wound detector of the single unit type.

You should not expect to purchase an alarm system and installation for much less than $100. It is difficult, however, to pinpoint cost, because it varies with the complexity of the alarm system. For example, one elaborate set-up includes a master panel in your bedroom which lights, showing you which room is on fire.

Some persons, highly pressured by salesmen, have shelled out $600 for a system that shouldn't have cost more than $200. A check with your fire department or Better Business Bureau will tell you if a price is out of line.

Other things to consider when buying home fire alarms:

• Insist on the Underwriters' Laboratories (UL) or Factory Mutual Laboratories (FM) stamp of approval. Be sure the seal appears on every component of your system—thermostatic device, control unit, wiring or tubing and audible alarm device. This means they have been tested and found reliable.

• Be sure the signal alarm sounds for at least five minutes and is loud enough to wake all occupants, even those sleeping behind closed doors.

• In ordinary homes, the best place for the sound device is in a corridor common to bedrooms or in the master bedroom. Large houses may require more than one alarm device.

• Choose a reputable company to install your system. This is paramount because two homes are seldom identical, and each alarm system must be "tailor made" by the installing company. The company should space the components according to United Underwriters' Laboratories recommendations. Your Better Business Bureau or fire department can help you find a competent, reliable company.

• After your system is installed, demand a test to be sure it is adequate. After that you can test the system periodically—once a week is not too often—to be sure it is working.●

Cut not need.

Quick Guide to MUSHROOMS

Never sure which specimen is edible?
Stick to "foolproof four" shown below.
Each is harmless, easily recognized.

ANGEL OF DEATH

It paralyzes, then kills person who eats it. No antidote is known. You can spot it by cuplike frill on stem, bulbous base and white, rather than the usual brown, gills under its cap.

Shaggymane, luscious but spoils within few hours even in refrigerator.

Puffball may be small as golfball big as basketball.

Shelf grows on rotten logs or living trees.

Morel resembles a sponge.

Illustrations by Mac Heaton, Indiana Department of Conservation.

Kids Who Die on Bikes

Who's at fault? Almost always youngsters breaking laws. Here's how to help your child survive.

Poignant aftermath of a boy's death.

A 12-YEAR-OLD boy, nearing the end of a 24 mile bicycle excursion, was zigzagging along an Illinois highway just to break up the monotony. Suddenly he veered off the road, tried to get back on, skidded, fell into the path of an automobile and was killed.

This accident points up a tragic problem that brings grief to hundreds of parents. This year, nearly 500 persons, mostly children, will die in bicycle accidents. More than 25,000 will be injured and disfigured.

Who's responsible for this heartbreaking toll? Kids themselves and parents, indirectly. A study by the National Safety Council showed that in four out of every five bicycle accidents with motor vehicles, bike riders were violating traffic laws. This has startling implications. It means that each year more than 20,000 bicyclists could avoid death or injury simply by observing traffic laws.

Strangely, many bike riders who violate laws do it out of ignorance. They don't even know bicycles are subject to the same traffic laws as automobiles. Many who are informed, don't take the laws seriously.

Consequently, police records pile up such accidents as these: In Illinois, a child, riding "blind" with a friend on the handlebars, crashed through an intersection into the path of a car. The boy died; his friend was critically injured.

A 12-year-old boy on a bicycle was killed when he darted from a sidewalk into the street. A car dragged him several feet, struck another vehicle, pinning the boy in between.

A 14-year-old girl zoomed through a stop sign and hit the back end of a car. She lived but injuries confined her for several months.

Job for parents

Obviously, parents are failing to teach rules of the road to young bicyclists. Too many parents, either thoughtless or uninformed, buy their children bikes, then simply turn them loose to take incredible chances on traffic-laden roadways.

Parents must realize that a knowledge of traffic rules is a young cyclist's number one survival skill, say traffic authorities. They urge parents to explain simple traffic laws to every child who rides a bicycle.

A cyclist is required by law to obey all traffic signals and signs and use hand signals for turns. He should also ride with the traffic on the right side of the street. Some parents mistakenly instruct children to ride on the left facing the traffic. This is an old-fashioned safety concept that has been disproved. A survey by the National Safety Council showed that riding a bicycle on the right side of a road is safer than riding on the left. Traffic officials, nationwide, solidly support this view.

A parent should also procure a copy of the local bicycle ordinance if there is one. Some communities require a bicycle to be licensed and the operator tested.

Other good rules to teach young bicyclists are: always ride single file; never haul anyone on your bike; never zigzag; never hitch a ride on a vehicle; never show off or do stunts; play bike games only in empty lots or yards where there is no traffic; if traffic is heavy at an intersection, get off your bike and push it across.

Is bike in good condition?

Parents must also be sure the bike is in good mechanical condition. A knowledge of traffic laws won't do a child much good if his brakes won't work at an intersection.

A parent can determine the fitness of his child's bicycle by checking it against these questions:

Does it fit the child? His foot should reach the pedal easily.

Does it have a reflector and tail light? Reflectors should be seen from 300 feet, a tail light from 500 feet.

Are brakes good? Brakes should stop the bike fast enough to skid tires on dry pavement.

Is chain working adequately. It shouldn't be too tight.

Are pedals still in one piece? Rubber parts should not be excessively worn.

Does it have handle grips glued on tightly?

Does it have a horn or bell? These should be heard at least 100 feet away.

Does it have a front light? It should be white and visible for at least 500 feet at night.

Do front and rear wheels line up? They shouldn't wobble.

Are spokes all there?

Do tires have enough air?

A parent who knows his child rides a safe bike and respects traffic laws, can be reasonably sure the youngster will survive in traffic. The parent who doesn't bother to teach his child safe cycling is just asking for tragedy.●

Bi 47

Bi 47

Cyclists should ride single file on the right side of the street and obey all traffic signals.

New antennas can shock

Don't be overawed by those new, much-advertised, cheap TV antennas that plug in a wall socket and "turn your house wiring into a giant antenna." They are potentially dangerous, according to *Consumer Bulletin* magazine.

After tests, the magazine concluded, "A coupling capacitor used in plug-in antennas tested was rated at a working voltage of 1,000 volts. However, if one should fail, and such condensers in TV receivers do fail, as any serviceman can attest, then a potential of 115 volts will be applied to the TV set. Depending on circuit designs of TV models and especially with sets that have metal cabinets, there could be a severe and dangerous shock hazard present."

Wringer washers—big problem

Despite the increased use of automatic washing machines, thousands of children and adults are injured in wringer washers each year, according to a report by the American Standards Association. There are an estimated 30 million wringer washers in operation in the country today, and about 700,000 sold each year. The association is considering a committee to recommend minimum safety standards for wringer washers.

Jail for careless smokers?

Is a person who carelessly starts a fire that kills someone guilty of manslaughter? Some think he is as legally liable as if he ran down a pedestrian with his auto. The courts are beginning to think that way too.

Last fall in Columbus, Ohio, a 45-year-old man, smoking a cigarette, fell asleep and started a fire that killed his four grandchildren, sleeping upstairs.

The city or state had no statute under which they could try him for manslaughter, but they did convict him of violating a careless fire ordinance. His sentence was six months in the workhouse, but it was increased to three years under the "habitual offender charge."

Flaming foam

Most persons think white plastic foam, extensively used in home decorations, is fireproof. But it burns easily, as was proved in a holiday fire in Oklahoma City. An electric lamp cord came in contact with a plastic foam Christmas ornament, igniting it.

The plastic, known as expanded polystyrene, ignites quickly, burns vigorously and fills the air with a thick black ash, causing serious smoke damage, according to Dan Hollingsworth, director of the Oklahoma City Safety Council.

However, some polystyrene has been treated with a chemical, making it fire resistant and blue in color.

Good news from toy makers

Mothers who are plagued with trying to keep doll's eyes out of baby's mouth can rejoice. Toy manufacturers are beginning to see the problem. The Toy Manufacturers of the U.S.A., Inc. (trade association) recently condemned the "unsafe practice of affixing eyes, noses, ears, spectacles and the like to dolls and stuffed toys in such a manner that they are easily detachable." The association particularly attacked the use of sharp prongs, pins, wires and staples to attach features. The association urged its members to discontinue using easily detachable features which might harm children.

People in glass houses

Kids who live in houses with glass walls have a problem reports a pediatrician from Miami, Fla. Many such walls slide open and shut, separating house from patio. A youngster comes racing through the house, doesn't notice whether the wall is open; often it isn't and he takes a dive through glass. The doctor estimates there are three or four such accidents a month. He suggests that mothers decorate sliding glass walls with decals to alert children.

Wadkins wows

kids with fairytales

women with "dirty" stories

they call him JIMINY CRICKET

"WHAT Dr. Kinsey Didn't Tell" was the intriguing title of a recent speech to a women's club in Richmond, Va. The speaker was Jim Wadkins, manager of the Richmond Area Safety Council and Virginia State Safety Association. As soon as the ladies were packed in, and they were, Wadkins arose: "And what didn't Dr. Kinsey tell? He told nothing about safety, that's what."

After appreciative giggles from the ladies, Wadkins carried on a lively safety talk interspersed with humor, seriousness and slides. "You've got to have some humor and gimmicks if you want to spread the safety story," says Wadkins. Another one of his famous topics is "How to Tell a Dirty Story." He swears the announcement of this naughty subject once lured 10 members of a club who had never before attended. The punchline: "Accidents are the dirtiest story I know."

Wadkins believes the best gimmick any safety group has is visual aids: "They are the cheapest, easiest way to get safety across," contends Wadkins. "Everyone has two eyes and two ears. Your message can go in one ear and out the other, but when it goes in the eyes it goes straight back, hits a blank wall and stays there."

Figures from pipe cleaners

Wadkins makes his own visual aids. "You don't have to go out and spend 50 bucks for expensive equipment," he maintains. "Pipe cleaners are exceptionally cheap and effective. They are only 10 cents a pack and you can bend them to represent nearly anything. Twist one into a rectangle and you have an auto. Add arms and legs to a stalk with a curlicue on top and you have a human figure. Cleaners will stick to flannel, suede paper or a blackboard."

Wadkins' favorite eye teaser is the colored slide. Again he doesn't wait for commercial firms to produce what he wants. He gets out his camera, a roll of slide film and shoots his own. Consequently, he has a collection of 3,000 safety slides--many of cartoons and ads from magazines, reproduced with permission, and some of local Richmond.

To make the cartoon slides, which never fail to tickle and inform, he tacks the cartoon on a board in the sun, and steadies his camera with a tripod. "I never present a statistic without adding humor," says Wadkins: That way people are apt to remember it."

Slides of local Richmond are a powerful weapon. "There's no use presenting a national safety problem," Wadkins says. "People in Richmond will say it's not happening here. But with slides of familiar locations you can prove it's a local problem." Wadkins once convinced disbelieving local school authorities that mothers picking up school children were illegally parking, blocking the way for buses and causing traffic trouble. He took photos of offending mothers parked in front of glaring no parking signs. School officials conceded.

"Anyone can do the same in their community," asserts Wadkins.

Not rec'd.

The Firebird doesn't have a friend in the forest. He flits through wooded areas carelessly tossing lighted matches, cigars and cigarettes out of his car—leaving a trail of fires behind.

To brighten safety speeches, Wadkins put this multi-colored firebird on slide and endowed Dennis the Menace with safety messages.

"Each slide costs about 50 cents and you can get them within a week." When the plastic bag panic developed, Wadkins made slides of a brochure supplied by the Industry of Plastics Society. He had a set of slides in the hands of several clubs around Richmond within a few days.

Wadkins regards slides as the best visual aids. Even better than movies. The audience can lapse asleep in a dark movie, but not in a slide showing. "You are talking to them, looking at them and they can't go to sleep on you."

Kids like Mother Goose

One important point in using visual aids is to gear them to your audience. Wadkins found Mother Goose characters especially appealing for teaching safety to youngsters. Tommy Tucker, Peter Pumpkin Eater and Little Jack Horner can all deliver safety messages. Wadkins never uses his own words. It's always—"Tommy Tucker says—" or "Jiminy Cricket says—" "In fact, I'm known by half of the kids in Richmond as Jiminy Cricket," he laughs.

The Menace at school

Dennis the Menace was so effectice in teaching kids safety that one man accosted Wadkins on the street and good naturedly complained, "For heaven's sake, keep Dennis the Menace out of schools." Wadkins was confused for a moment, but the man explained, "Every time I start to jay walk my son calls, 'Come on Dennis, let's go to the corner'." Wadkins had once labeled jay walkers as Dennis the Menace. Evidently it was paying off.

"After all," Wadkins says, "Safety has got to compete with the local amusement center."●

Metropolitan To Reward Research

The Metropolitan Life Insurance Company and the National Safety Council have announced the establishment of the Metropolitan Award to recognize investigators studying the causes of accidents. The purpose of the award, which will be administered by the Council under a grant from Metropolitan Life, is to encourage research workers in the various sciences to include the problem of accident causation in their studies.

The award, which includes one thousand dollars and an appropriate testimonial, will be given for the research project in any field of accident prevention judged to be the most significant contribution toward the reduction of accidental injuries and deaths.

Because the field of accident prevention cuts across all scientific areas and is so broad in scope, research may come from any of the disciplines—biological, physical or social. It can also include interdisciplinary undertakings.

The 1960 award will be made for research completed within the three-year period of 1957 to 1959.

Rules and information may be obtained by writing John J. Flaherty, director, Research Division, National Safety Council. Projects must be submitted before April 30, 1960.

New pamphlets

Guard your family against fire—leaflet explaining five major causes of home fires, how to prepare for fire emergencies and guard against special hazards. Allstate Insurance Companies, 7447 Skokie Blvd., Skokie, Ill.

How to live better Electrically!—pamphlet including how to choose and use power supply cords and cord sets, caring for electrical housewares, what to do when a fuse blows, 10 rules for electrical safety. The Safe Electrical Cord Committee, P.O. Box 398, Stratford, Conn. 4 cents each.

Community Campaign

WATER SAFETY

Here and on following pages are articles to help you plan a campaign.

how to set up

a WATER SAFETY PROGRAM

by Ralph Kuhli

COMMUNITIES, fortunate enough to be near water, want just one thing—more water-fun—as much as possible without accidents. Yet, the tremendous upsurge in water sports, especially boating, burdens communities with an unprecedented safety problem.

In some areas, civic groups, alarmed by hazardous water traffic, have set up safety programs. Consequently, a community may find itself with a dozen programs conducted independently by the local police, Coast Guard, Red Cross, marina operators, Girl Scouts, boat dealers, even the local newspaper. These diverse efforts are undeniably valuable—*but* not so effective as they could be. Organizations could channel their efforts into one united, coordinated, dramatically forceful drive against water accidents.

Ralph Kuhli is director of the Public Safety Department of the National Safety Council.

Who could serve as a meeting point for such a program? The local safety council. A council could establish a Water Safety Section within its framework and invite organizations to pool their efforts in a concentrated community program.

In addition to carrying on a coordinated area-wide project, each participating organization would be encouraged to conduct individual programs.

Which organizations participate?

- *Business and industry*

Local manufacturers of boats and boating equipment

Retailers of boats and boating equipment

Operators of marinas

Local members of the three trade associations which constitute the Outboard Boating Club of America

Operators of outlets servicing boaters—gas and oil, books, etc.

Local members of the National Association of Engine and Boat Manufacturers

Newspapers, TV, radio

Companies insuring boats and marine liability

Private schools

Other leaders of business and industry concerned with the business of small boats (for example, banks which finance the purchase of boats).

- *Voluntary organizations*

United States Coast Guard Auxiliary units

United States Power Squadrons

Local chapter of the American National Red Cross (the director of water safety)

Boating clubs, including those affiliated with the Outboard Boating Club of America

Sea Scouts (and Boy Scout merit badge instructors in canoeing, boating, sailing, etc.)

Girl Scouts (marine program)

Churches (they are concerned with the moral responsibility for

safety; also, some have parochial schools)

All other interested non-official, non-profit organizations whose programs include activities for small boat safety

- *Public officials*

Police Department

Board of Public Works

Board of Education (public schools)

Health Department (especially concerning vital statistics)

Any other departments concerned with safe boating (Fire Department, Recreation or Park Department, Harbors and Rivers)

What would the section do?

Because of the overwhelming interest in boating, these suggestions are slanted toward that aspect. However, the same principles could be applied to other phases of aquatics.

Research, fact finding. Accident reports are now required under the Federal Boating Act of 1958. Knowledge of accidents happening in your area enables you to tailor local programs to local needs. You need a "base-line." A detailed record of present accidents provides a basis for comparison so you can determine whether your expanded safety program is actually preventing accidents.

Exchange of information. Among organizations concerned and also to the entire boating public. This includes private and public meetings, newsletters, circulars, special publications (of statistics, for example, for program leaders), and general news releases. Full publicity should be given programs of organizations represented in the Water Safety Section, and public support given to official programs of the Police Department and the U. S. Coast Guard.

Standards or recommendations. Local agreement on: what instructions in boating are to be recommended or perhaps even required of teen-age power boat operators; areas of waterfront to be restricted to swimmers or water skiers, or fishermen; local regulations on hours of speed or competition, etc. Engineering and enforcement must be added to the programs of education. Boat numbering required by the Federal Boating Act of 1958 provides some opportunity to set standards and make recommendations on boats and equipment for safety.

Training. In-service training aids for those who are to teach boating safety, training for public speaking teams, training for inspectors, training in safety for salesmen, etc. The Auxiliary, Power Squadrons, and Red Cross offer courses in safe boating to the boating public. The Section should promote vastly increased attendance at these courses.

If schools offer courses to teenagers, the Section should provide all possible assistance to the teachers of such courses. Information on aids from all sources should be made readily available to instructors teaching boating to Boy and Girl Scouts. The Outboard Boating Club of America has developed a course for dealers to give customers, and the Section could actively support this.

Technical assistance. Professional boating people are technical specialists and through the Council, could reach larger audiences. The Section could also help with procedures for group work (reaching boaters who are not yet members of boating organizations); improve public relations techniques; strengthen presentations on TV and radio and in releases to newspapers; improve group work, and —in short—bring together the professional in boating and those who need this technical assistance.

Program aids. Materials on safe boating from all sources. This would include pamphlets, booklets, books, motion pictures, filmstrips, slides, decals, magazines, and other periodicals. The council could facilitate more effective and intensive use of these materials. A Water Safety Section might decide to publish locally certain program aids to fill unmet local needs.

Measurement of performance. Evaluation: Help organizations discover which of their program activities and materials are most effective and rewarding; determine to what extent local needs for safe boating are being met; develop means for measuring the effectiveness of boating safety activities.

Recognition of achievement. Develop suitable award programs to recognize sound accident prevention work. Publicize commendable safety work of program organizations. Identify boating safety contributions so the public understands and supports such activities and the organizations which conduct them.

Coordination. This is the key role of the safety council and coordination is always voluntary. The council provides times and places for local organizations to work together on a united, area-wide safe boating program.

Although the program will be handled through the council's Water Safety Section, the full resources of the council can be made available to further the program. For it is of widespread interest. It involves industry with off-the-job safety, traffic with transportation of boat trailers, and home because it is the number one family outdoor recreation.

The dividends of a water safety program? Some lives saved, many injuries prevented, safer boating for all. Plus a bonus of (1) a happier community with more families enjoying boating, (2) even stronger community organizations and (3) better business—more and better customers for marine equipment.●

Copy 3 reprint in U. of. Sp66W

not rec'd.

MEMBERS OF THE BOATING AND WATER SAFETY DIVISION

Seated: Virl Berry, Commander Greater Cleveland Boating Association; Walter F. Liesegang, vice president, Greater Cleveland Safety Council; Dr. William A. Gillette, Commander, Cleveland Power Squadron; Bruce Merriman, Lt. Commander, Cleveland Power Squadron. *Standing:* Arnold Erickson, Cleveland Power Squadron; Joseph D. Stinson, Cleveland Power Squadron; Allard Hardy, safety director, Cleveland Chapter, American Red Cross; Commander Warner K. Thompson, Jr., Coast Guard; Charles Szekely, Coast Guard Auxiliary; Harold W. Burke, Chief, Cleveland Weather Bureau; O. Earl Lowe, general manager, Greater Cleveland Safety Council.

Look what CLEVELAND did!

Cleveland's water safety program is a model for other troubled communities.

by F. M. Paulson

IN 1955, the Greater Cleveland Safety Council, alarmed by the increasing number of drownings and water accidents, took a long, hard look at their waterfront and came away shocked and disturbed.

"We were not happy with our community's water safety record," says Paul J. Hoover, president of the group.

Officials, from surveying the entire boating scene and from complaints received, could put their fingers on many potential and, in the past, actual causes of mishaps. Experienced boatmen were not a problem. It was the vast armada of new craft, many of the novice skippers blessed with little knowledge of boating except how to start their motors and steer. Water skiers were zipping in front of and around the huge ore carriers entering and leaving the harbor. Hot-rod boat operators were risking the lives of many in their insane practices. Boats were ridiculously overloaded and in some cases fishermen were blissfully anchoring in the deep water freighter channels at night, often without lights. Compounding the problem was a continual influx of new converts, day by day, getting their first taste of their new hobby.

Much to offer

"It looked like a difficult task from the start," says Hoover. "However, we at the Safety Council felt that in a concerted and sustained effort at establishing a water safety program we had many things to offer:

1. Through our thousands of volunteer workers we could obtain public support of any boat safety program.
2. The Council has the means of distributing literature and posters on boat safety through our divisions that cover factories, commercial companies, schools and private homes.
3. Our close relationship with the press, radio and television provides extensive coverage.
4. Our constant work with the police departments and public officials of the various municipalities gives us good liaison for quick action on the local level.
5. We have funds and a trained staff to handle the many details in connection with an energetic boat and water safety program."

The start of what has since become a model for community water safety programs began with a meeting with the eight agencies

This article is reprinted with permission from Popular Boating, *Feb. 1960.*

having an active interest in the subject. Represented were the United States Coast Guard, the Greater Cleveland Boating Association, the Cleveland Power Squadron, the United States Coast Guard Auxiliary, the Red Cross, the Cleveland Chamber of Commerce, the United States Weather Bureau and the Ohio State Waterways Safety Commission.

Off to a poor start

That first meeting of minds was discouraging. Each group felt it had a well-developed and effective program and they could see no necessity to coordinate activities. Each admitted, however, that not enough boat operators were being exposed to their training and educational programs. Each, too, recognized the urgent need for some form of safe boating regulations. Agreement on these two facets was at least a good starting point, although it took nearly three years and dozens of meetings to agree on the principle of coordination of the eight organizations.

A new and separate division of the Greater Cleveland Safety Council was formed for Boating and Water Safety. Walter Liesegang, then commander of the Greater Cleveland Boating Association and one of the city's most enthusiastic boat owners, was named vice president for the new division.

Liesegang and representatives of other boat and yacht clubs had already been working at drawing up some sensible boating regulations for the city's waterways. Conferences with representatives of Great Lakes freighter operators, commercial fishermen, water skiing clubs and skin diving groups provided valuable information on the needs and problems of each.

These regulations were adopted by city council in the form of an ordinance, establishing firm rules and providing for the prosecution of reckless boat operators and stiff fines and, in serious cases, a jail sentence.

"We were naturally aware of the Federal Boating Act on the horizon and the certainty of unified state laws," says Liesegang. "Our problem was immediate. But at the same time we tried to keep the rules in line with what we thought the coming state and federal regulations would include, to minimize later confusion."

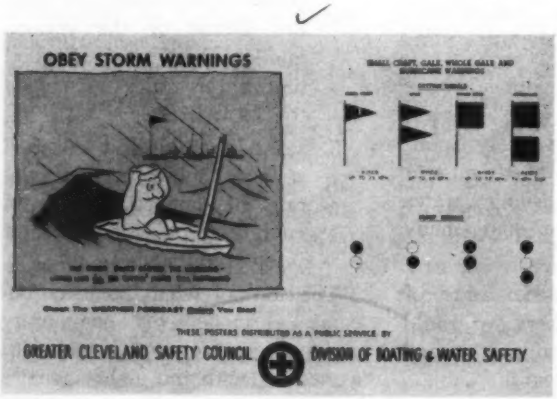
We meant business

An added voice of authority was provided when Police Chief Frank Story assigned rotating shifts of police officers to ride the patrol boats the Coast Guard had volunteered. When city regulations were disregarded, the police officers could issue a summons, the violator to appear in municipal court, as in the case of an errant motorist.

"This was the sort of help we needed to show the boating public we meant business," Liesegang points out. "Up until then the Coast Guard had been doing a magnificent job, particularly in regard to inspections for safety equipment. However, operational infractions were hard to prosecute successfully because of the long delays and costs inherent in federal court cases."

Most important factor in the city's awakening to water safety was, so the Safety Council asserts, not the impact of the new rules or the resulting arrests, but a concerted educational program carried out throughout the city in 1958 by the organizations closest to the boating public. The Cleveland Power Squadron enrolled over 500 people in its elementary safe boating course and booked nearly 300 in its advanced courses. The Coast Guard Auxiliary trained over 500 in its basic safe boat classes and had over 700 booked for its 1959 schedule. They also made 4,250 courtesy safety inspections. The Greater Cleveland Boating Association provided 35 illustrated lectures on safe boating practices to over 2,500 people in boat clubs and other groups. In the Greater Cleveland area too, the American Red Cross reported that more than 15,000 attended its courses on small craft and water safety. Over 10,000 United States Coast Guard boardings for safety inspections and the distribution of thousands of posters to offices, factories, schools, yacht clubs and municipal docking and launching facilities were other big factors in making Clevelanders water-safety-conscious.

Young minds being receptive to schooling, most of the individual yacht and boat clubs have summertime classes in small craft handling and sailing for children in several age brackets. Often, after the courses have been completed, the young novices compete in events sponsored by the clubs, putting


OBEY STORM WARNINGS
THESE POSTERS DISTRIBUTED AS A PUBLIC SERVICE BY
GREATER CLEVELAND SAFETY COUNCIL
DIVISION OF BOATING & WATER SAFETY

A poster prepared and distributed by the Division

into practice lessons learned at the docks.

"Recent statistics, released by the Outboard Boating Club of America, show that the fatality rate in outboard boating reached an all-time low in 1958 while the number of outboard motors in use increased 2,882,000 in the past nine years," Liesegang points out. "These are national figures, of course, but we know that our program and others patterned after it played an important part in the falling accident rate."

Spirit of "togetherness"

Many Clevelanders, too, feel that the cooperative water and boat safety program has done much to bring the individual clubs together, friendly rivalries notwithstanding. This new spirit of "togetherness" is manifested in the new local boating newspaper, the Inter-Yacht Club News, published by Alex J. Gruszka and Eugene M. Symms.

Whoever coined the phrase "melting pot of humanity" must have had Cleveland's boating public in mind. They run the gamut from laborer to board chairman; their chosen craft ranging from 12-foot skiffs and 10 h.p. motors to sleek, 65-foot luxury power cruisers, and from day sailers to big auxiliary yawls. An aggressive water and boat safety program recognizes no distinction, however, and the safety message is forcefully carried to all.

The problems faced in Cleveland were not new, nor were they substantially different from those now confronting small craft owners and public officials in other communities. Spurred on by a declining water safety record, a growing army of small craft enthusiasts and the necessity for immediate action, Cleveland did something about it. If water safety is one of your community's more pressing problems—take a long look at Cleveland!—●

Water Safety Materials

Books, pamphlets

Two colorful eight-page leaflets on vacation safety covering water, traffic, outdoor and home safety. Prices for *Have Fun* (#194.37) are: 50-499 copies, 7 cents each; 500-999, 6.2 cents each. *Let's Go On a Safe Vacation* (#194.36) is 7 cents each in lots of 50-499 and 6.9 cents each for 500-999 copies. Lower prices for larger quantities from National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. Prices subject to 10 per cent discount to NSC members.

The Science of Skin and Scuba Diving, Adventures With Safety Underwater, 306 pages, published 1957. Written by experts for the Conference for National Cooperation in Aquatics. A reference for both instructors and students. Cost, $4.95 from Association Press, 291 Broadway, New York, N. Y.

Down the Hatch—24 page booklet on prevention of boat fire and explosion. Free from Cruisguide, Gulf Oil Corp., Gulf Building, Pittsburgh, Pa.

Safe Boating—a colored folder emphasizing motorboat safety with barges on commercially navigated waters. Free from National Safe Boating Committee, Suite 605, Landreth Building, St. Louis 2, Mo.

Cruising With Safety—84 page booklet on proper procedure around boats, afloat and ashore. *Carefree Outboarding*—32 page booklet on proper care of outboard motors. Both free from Texaco Waterways Service, 135 E. 42nd St., New York 17, N. Y.

Films

Available from Chief, Public Information Division, Coast Guard Headquarters, Washington 25, D. C. or from Commanders of Coast Guard Districts on free loan basis, are the following 16mm sound motion pictures: *Safety on the Water* (black and white, running time 28 minutes) and *Common Sense Afloat* (color, running time 28 minutes). Both films are cleared for TV use and are directed to pleasure boat owners. *Safety on the Water* stresses importance of providing equipment beyond legal minimums and need for sound knowledge of seamanship and small boat handling, and *Common Sense Afloat* deals with safe practices in outboard motoring.

The following 16mm sound motion pictures on swimming and boating safety are available for purchase or loan from your local Red Cross Chapter (all are cleared for television use): *Learning How To Swim; Fundamentals of Swimming; Skilled Swimming; It's Fun To Swim; Boats, Motors, and People* (produced in 1958); *Oars and Paddles; Heads Up*, and *Teaching Johnny To Swim.*

Red Cross textbooks: *Swimming and Diving*, and *Life Saving and Water Safety*, available through your local Red Cross Chapter at 75 cents each.

Red Cross pamphlet: *Teaching Johnny to Swim: A Manual for Parents.* Individual instruction by parent for child too young for group instruction (i.e., under 9 years). Available also through local Red Cross Chapter.

Sink or Swim? Ten Ways to Save Your Life, by Jack Harrison Pollock, Birk & Co., publishers, 22 East 60th Street, New York 22, 8 cents each, lower in quantity.

Program Planning for Camp Waterfront, Jacobs & Buchman Press, 1030 Walnut Street, Allentown, Pa.

A Directory of Boating Films is published by the Outboard Boating Club of America, 307 N. Michigan Ave., Chicago, Ill.

Data Sheets

National Safety Council, Safety Education Data Sheet on *Swimming* (#429.04-27) and *Small Craft* (#429.04-28). Four-page guides for teachers, available from the Council, Chicago 11, Ill. for 6 cents each, minimum order 10 copies. Lower prices in quantities of 100 or more.

Posters

National Safety Council posters.

0773-A	Goin' Swimmin'?
0762-A	Goin' Fishin'?
1261-B	Boating Tips
9526-B	Holiday Hints

Cost: "A" size (8½ x 11¼) 12 cents each for 10-99; 7 cents each for 100-999. "B" size (17 x 23) 20 cents each for 10-99; 16.5 cents each for 100-999. Discount of 10 per cent to NSC members.

not head.

Coach Fred R. Lanoue

not head.

Headless lady is a drownproofing student, emerging for a lungful of air. Anyone, even those who can't swim a stroke, can learn in an hour.

By using a simple swimming

technique perfected by a coach

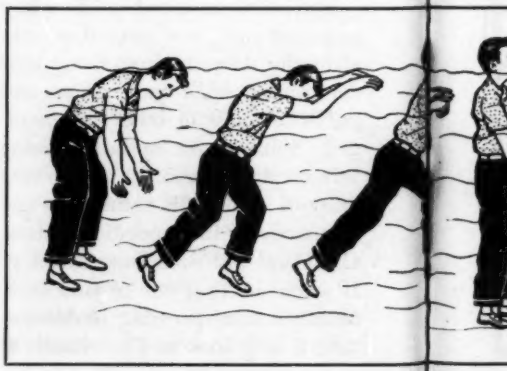
Everyone ca

by Bill Hutto

EVERY 24 hours 17 persons drown in the United States. But so simple a sounding thing as controlled breathing could prevent the majority of these water tragedies.

Fred R. Lanoue, swimming coach at Georgia Tech in Atlanta, has devised a technique for putting into humans the necessary control that can prevent their drowning. Appropriately, he calls his system drownproofing. He guarantees that anyone who learns and practices this simple method will become drownproof in all but the most extreme situations such as being unconscious or being pinned under water.

The big difference between drownproofers and ordinary swim-



n can be DROWNPROOF

mers is that drownproofers simply do not get tired regardless of time afloat or distance swum.

His method requires only one main factor – controlled breathing, which produces a cool head. "Improper breathing causes most drownings," Coach Lanoue said. "Eliminate this and you eliminate the majority of drownings."

Thousands of Tech students have learned drownproofing and Coach Lanoue says that 99 per cent of them could make shore from 10 miles out in the ocean—even with one or more limbs disabled. Tech had one man come back from World War II and tell how he floated around the ocean for five hours with bones broken in one forearm and the other one badly burned. Hundreds of his shipmates drowned before he was picked up. He learned his skill as a small part of the Tech drownproofing course.

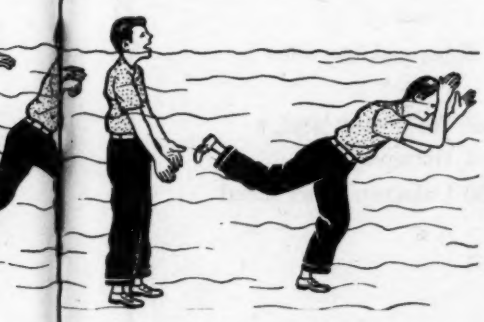
Coach Lanoue has answered more than 250,000 requests for information about his technique. These requests come from every corner of the United States, and from foreign countries as well. He said that practically every European country has inquired except England and Germany.

Exhaustion overtakes a person very quickly when he tries to keep his head up while struggling in a dangerous water situation. The head weighs about 15 pounds. Yet Coach Lanoue has trained nonswimmers to stay in deep water for eight hours and to swim more than a mile. Some of them even had their hands and feet tied to simulate injuries.

The *secret* is that no effort is made to keep the head above water except for the few seconds necessary to breathe. The person simply assumes a position face down in the water, arms and legs dangling freely, with the back of the neck on the surface. This procedure uses no energy and is quite restful. Every few seconds, depending on the individual's degree of relaxation, the person raises his head slowly as he exhales through his nose. When his mouth clears the water, he takes a new breath. At the same time, arms or legs are used to thrust down slowly to maintain buoyancy during breathing.

Lungs full of air, the head is dropped slowly forward into the water and arms or legs thrust downward and backward slowly. The body relaxes as it moves forward under the water.

"People who can't swim a stroke —in the popular conception of fancy or recreational swimming— can perform this feat with an hour's instruction and practice," Coach Lanoue said. "By using it properly a child can stay afloat for hours and travel long distances in the water."



FIVE POSITIONS

1. With lungs full, float face down, arms and legs dangling and back of neck on surface. 2. Get ready for slow downward push with arms and legs. 3. Exhale through nose as your head emerges. 4. Pull arms and legs down and back to support body while inhaling slowly through mouth. 5. Drop face in water; slowly thrust arms and legs down and back. Relax and you'll resume position 1, slowly floating forward and upward. Repeat cycle.

Twenty out of 24 four and five-year-old children stayed up one hour after about 20 lessons.

Comparatively, recreational swimming uses a great deal of energy. Even a strong swimmer attempting to swim to shore with standard swimming strokes may become tired and need rest. He wouldn't be likely to maintain the strokes for more than a few hundred yards.

"Recreational swimming is fine for fun, but it won't help you much if you are in the middle of a big body of water with a swim of several miles ahead of you," Coach Lanoue said. "Strength doesn't count either," he continued. "I've had big football players in season who were exhausted after swimming two lengths of the pool at full speed."

Drownproofing is particularly effective for the man or woman in poor physical condition, because the skill doesn't deteriorate with the years. Controlled breathing is the main requisite.

To demonstrate how drownproofing will work even with all four limbs disabled, many Tech students stay in deep water for 45 minutes with hands tied behind their back and feet also bound.

In a real emergency, the temperature of the water you are in will of course, have a bearing on how long you can survive. Cold water exhausts a swimmer quickly. Rough waves, common in the ocean, would have little or no effect on the method's practical application.

"Self-discipline is vital to this technique," Coach Lanoue pointed out. "Anyone can learn it and practice it in a swimming pool. Being familiar with it and knowing from experience that you can do it will go a long way toward eliminating panic when you get into a tough spot."●

Bill Hutto is on the news staff of The Southern Telephone News *from which this article was reprinted.* The News *is published by Southern Bell Telephone and Telegraph Co.*

WHY DROWNINGS?

How and where do drownings happen? A National Safety Council study of 195 public drownings (excluding those involving boats) in Illinois during 1958 offers some answers.

Place of drowning

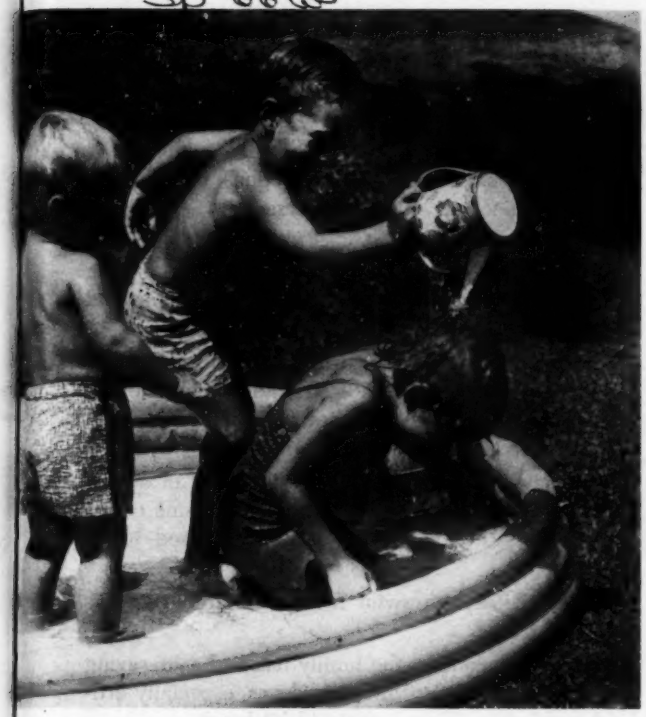
54	River or Canal
53	Lake Michigan
27	Lake
20	Park lagoon or pond
10	Stream or Creek
8	Gravel Pit
3	Farm land
3	Swimming pool, outdoor
3	Swimming pool, indoor
2	Beach
2	Sewer or drainage ditch
1	Quarry
1	Factory premises
1	School building
1	Bridge or trestle
5	Not stated
1	Unknown
195	

Immediate cause

34	Slipped and fell in water
20	Leaped or fell in water
19	Found dead
12	Fell or jumped
9	Stepped in hole
6	Swimming in non-patrolled area
5	Tried to swim too far
4	Fell through ice
3	Fell off floating object
2	Cramps
2	Fell from bridge or trestle
1	Child unattended
1	Caught in current
1	Fell into well
1	Explosion of gas
75	Unknown or not stated
195	

Activity of victims

36	Swimming (unguarded)
28	Wandering, walking, etc. and falling into water
13	Wading
7	Rescue attempt
6	Injured while diving or swimming
5	Swimming (supervised)
5	Playing in water
5	Walking or playing on ice
5	Fishing from shore or bridge
1	Waterskiing
1	Cruising
1	Jumped into water to retrieve
1	Walking on level
1	Horseplay
80	Unknown or not stated
195	



Never leave children alone even in small wading pools.

Be sure one of family knows artificial respiration.

Keep pool clean by using proper chemicals.

What Pool Owners Should Know

Drowning risk is great unless pool owners set up and enforce rules listed here.

IN CHICAGO last summer a four-year-old boy and playmate were enjoying a splash party in a shallow plastic pool while mother, busy inside the house, periodically looked out to be sure the boys were all right. Suddenly, she saw her son's small companion standing at the rear door. "Jack's asleep at the bottom of the pool," he announced. The frantic mother dragged her boy from the pool and tried desperately to revive him. By the time the fire department arrived he was dead.

This tragedy, plus others in both miniature plastic pools and large built-in ones, point up a relatively new, extensive and fast-expanding hazard.

Private swimming pools, once reserved for millionaires, now bear price tags within the budget of many American families. Consequently they have sold at an astounding rate. In 1950, private pools numbered about 2,500. Today, that figure has multiplied more than 100 times, giving us an estimated 300,000 pool owners. During the 1960's we can expect construction of a whopping 800,000 pools, mostly in backyards. In addition, more than one million tot-size plastic pools will appear in yards this summer.

Backyard pools present a special problem because they endow uninformed home pool owners with safety responsibilities previously relegated to trained, pro-

fessional public pool operators and life guards. The inability of pool owners to cope with their new duties has shown up in the increase of private pool drownings.

A study by the Associated Swimming Pool Contractors in cooperation with the Los Angeles Safety Council revealed that 63 of 305 drownings in Los Angeles county from 1952 to 1957 happened in private pools. Forty-four of the private pool victims were 8 years or under, 29 of them unauthorized to be in the pool area. Nor were fences a safeguard. Twenty-three of the youngsters drowned within fenced or walled pool areas.

Some cities, alarmed by swimming pool hazards, have regulated pool construction and use. Such laws, for example, requiring a fence and prohibiting use after 10 p.m., will undoubtedly help prevent pool tragedies. However, the prime accident prevention responsibility must lie with pool owners. They must voluntarily set up and enforce certain procedures and rules regarding their pool, which apply not only to their own family but to neighbors who will undoubtedly share in the pool.

Pool owners should heed these precautions:

Small wading pools

- Constantly supervise youngsters using small kiddie pools. It has been proved that sporadic spot checks on children are not enough. It takes only a few seconds for a child to drown.
- Always empty small plastic pools when children have finished playing. Don't leave even inches of water for wandering neighbor children to get into.

Built-in pools

- Place the pool near enough to the house so you can easily keep an eye on swimmers and strangers who may wander into the area.
- A fence around the pool or pool area is a must.
- Mark off shallow and deep sections of the pool with buoy lines or other dividers.
- Always have a rescue device, such as a ring buoy, ready for emergencies. A shepherd's crook—a long pole with body-size hook—is good for encircling and pulling in floundering swimmers.
- Keep the pool clean by using chlorine and other proper chemicals in the water, flushing the pool every week and vacuuming the pool floor with a special underwater cleaner.
- You may also want the extra safeguards of a pool cover and an alarm that warns you if someone enters or falls into the pool when it not supposed to be in use.
- Never let anyone swim alone or without supervision.
- Be sure someone in the family has had a lifesaving course and knows first aid procedures, especially artificial respiration. Keep a first aid kit handy.
- Rule out dangerous play, such as running around the pool, pushing, ducking.
- Don't allow hazardous objects, such as bottles and silverware, in the pool area.
- Sit down with your family and draw up certain safety rules for the pool's use.●

Dry water test for sailors

Sp 66 WC

Avoiding a smash-up calls for quick action by the skipper in the forefront. But if she doesn't make the right move, no damage is done (except she loses 10 points); for the oncoming speedboat is only a movie and the female helmsman is safe on dry land.

During an excursion on the motion picture waterway, the helmsman pilots the craft through 10 common boating maneuvers designed to check his knowledge of the "rules of the road" and other boating safety practices.

He has to turn quickly to clear a water skier, then slow to avoid flotsam, guide his boat across another's wake at the proper angle, steer right to safely pass an approaching boat in a narrow channel—and so on, through 10 tests.

All the while, a mechanical "master mariner" automatically marks his score on a card that is ejected at the conclusion of the run.

Developed by Aetna Casualty and Surety Company, the Sailorometer is designed to call attention to safe boating practices.

not rec'd.

Rafts, topped with fantastic creations, line shore of a Tennessee lake.

RAFTS: *hazardous new craze*

by Eugene D. Glaze, Jr.

THE rafting days of Huck Finn and Tom Sawyer have returned with a modern touch. Americans, especially Southerners, are puttering around lakes on motorized rafts, some simple as a baby's playpen, others topped with castle-structures of several rooms. The rafts are so numerous on Tennessee water, we have dubbed them the "tin can armada."

The outboard powered raft usually ranges in size from 6 by 8 feet to 12 by 20. The motor, of any size horsepower, is attached to a step or transom. The raft is steered by a motor handle or by controls rigged to a crude control panel in the middle or side of the raft. A deluxe job has controls mounted on a post amidship under a canvas top.

The supporting oil drums are available from petroleum dealers, manufacturers, chemical companies and junk yards for about a quarter each. Sometimes they are gratis to anyone who will haul them away.

Risks outdo Huck Finn

Not even Mark Twain's mythical rascals were as reckless as their modern counterparts. It's not unusual to see 15 persons crowded on a raft that should hold at the most 6. And the way the oil drums are fastened is incredible.

The drums are attached to a framework of 2 x 4's or 4 x 6's by metal straps, generally nailed into the wood. Rods not exceeding ¼ inch stock may be secured by a bolt or by bending the rod over the timber, if holes were drilled for the rods. In many instances clothes line wire is used. The metal straps range from ¾ inch to 2 inches in width and are usually fastened by two or four roofing nails, occasionally, six or eight penny size nails, but almost never by screws or bolts.

Visualize the potential tragedy in a raft, 8 x 10 feet, supported by 12 drums of 35 gallon capacity, attached by wire to the frame. A dozen people are riding the raft in an area with large cruisers or tow boats where wakes are four feet. A sudden warping of the raft may cause the drums on the top side to pop free capsizing the raft and dumping its passengers.

(Continued next page)

The author is director of the Safety Council, Chattanooga Chamber of Commerce.

The floating or partially submerged oil drums also create a hazard for boaters and skiers. Along the TVA shore line are hundreds of these booby traps, that have come loose from float boats or mechanized rafts.

These vessels must comply with all U. S. Coast Guard regulations but regulations don't specify the capacity or means of support for the rafts. Overloading is impossible to determine on a raft, and if all aboard have approved life preservers there's practically no legal way to prohibit the rafts from area water ways.

Safe rafts exceptional

In defense of conscientious seamen, a few exceptional rafts have tubular frames extending below the drums midpoint to prevent popping. Other raftmakers have welded the drums together and attached them to the frame by "U" bolts closely spaced to assure safety. But according to the Sheriff's Safety Patrol, the marine division of the Hamilton County sheriff's office, few operators have given any thought to raft hazards.

At present the raft craze seems to be confined in southern states. From personal experience I can vouch for the rapid growth of rafts in Tennessee, Georgia, Florida and Mississippi. However, other states also have a problem with rafts to a lesser degree, and the craze could easily spread, especially with the advent of warm weather.

To prepare for the raft problem summer will bring, the Recreational Safety Division, Safety Council, Chattanooga Chamber of Commerce, outlined these 10 points for raft owners:

1. Invite an inspection team from the U. S. Coast Guard Auxiliary to check the raft.
2. Limit load to one person per floatation drum.
3. Comply with all U. S. Coast Guard regulations.
4. Use raft near the shore line. Avoid, where possible, main channels.
5. Don't congregate at any specific point on the raft.
6. Put into shore immediately if weather or craft creates abnormal turbulence.
7. Keep structures on the raft low and wide rather than tall and narrow. This makes the center of gravity lower and increases stability.
8. Check all drums before launching by tapping them with a pole or stick to see if they have taken on water.
9. Check anchor straps, rods, or wires to be sure they are secure.
10. Respect the water the same way operators of other crafts do. When a drum pops or one is found floating, ground it high and dry or sink it if water is deep enough.

A raft sailor who builds his vessel carefully and obeys these 10 rules won't jeopardize the safety of his passengers or other water users.●

not rec'd.

Right and wrong. Raft (left) has correct number of oil drums, properly enclosed in iron frame. Adjacent raft is supported by too few drums. Note how small wire, fastening drums, has snapped.

copy in U.f of 210

A report on off-the-job safety

Industry's Important homework

by Gordon O'Neill

WHAT are industry and business doing to prevent community-home accidents?

To determine this, a special questionnaire about off-the-job safety activities was included in the 1958 Home Safety Inventory. Reports were received from 760 business and industry organizations, varying in size from 10 employees to 100,000. Of these companies, 290 have an off-the-job safety program underway and 250 of those with programs supplied off-the-job accident figures.

Off-the-job injuries averaged 31.3 per thousand workers per year and 473 days lost per thousand workers per year. Work injuries for the same employees averaged 7.97 per thousand workers per year and 263 days lost per thousand workers per year. In 1958 the national off-the-job accident average for industrial workers was 38.7 injuries per thousand workers and 840 days lost per thousand workers.

The breakdown of off-the-job accidents reported in the Inventory was:

Home—9,505 injuries, costing 106,612 days lost.

Traffic—4,555 injuries, costing 130,581 days lost.

Public—4,017 injuries, costing 53,462 days lost.

The off-the-job accident experience reported in the 1958 Home Safety Inventory is better than the national average for the same year. This is undoubtedly due to the efforts of these companies in off-the-job safety and in some instances to community efforts in public safety education.

One company, with 1,835 employees, illustrates a successful off-the-job safety program. In 1957, employees had an off-the-job accident rate of 28.3 injuries and 491 days lost per thousand workers. In 1958, the rate was cut to 19.6 injuries and 280 days lost per thousand workers.

One of the most interesting effects of off-the-job safety programs is improvement in on-the-job accident experience of employees. That industrial safety training helps create a safe attitude toward off-the-job activities has been recognized for years. However, there has yet to be realistic acceptance of the effect of off-the-job safety programming on the over-all safety attitude of employees.

Programming for off-the-job safety, according to accident trends, varies with the seasons and regions of the country. The most frequently noted as seasonal trends in accident experience were: slips, falls and traffic hazards in winter; do-it-yourself projects around home in spring and fall; recreational sports, vacationing and traffic in summer.

The most effective safety activities, according to companies, were those in which the employee and

Anything can happen off-the-job

One company made a round-up of off-the-job accidents and came up with such descriptions as: running barefoot in the house, falling off a deer stand, falling through a ceiling, falling off a chicken coop, jumping out of bed, kicked by a bull, finned by a fish, gored by a cow, spurred by a rooster, pecked in the eye by a chicken, riding a horse between two close trees, cut by an oyster shell, falling asleep under a heat lamp, stepping into hot ashes, splashed by hot soup, and run over by a golf scooter.

his family participated and those involving animation, such as a film or safety party. The following activities are listed in order of preference by companies:

Red Cross first aid classes
Family safety meetings
Film showings
Off-the-job safety committee meetings
Letters and bulletins to the home
Cooperation with community agencies (health departments, fire departments, local safety councils, etc.)
House organ news items
Booklets and pamphlets passed out to employees
Exhibits and displays
Posters
Advertising
Newspaper-radio-TV promotion

It is most important, however, to recognize that the creation of an accident prevention attitude for on and off-the-job safety depends on continuous exposure to safety from all possible media.

Only 90 of the companies reporting direct off-the-job activities to the whole community and 172 participate in community safety activities. When one stops to reflect that in 1958 about 50 per cent of all fatal and disabling injuries happened to workers, it is difficult to understand how a community can ignore the importance of accident prevention to workers.

At the same time business and industry should be eager to aid in community safety programs, since almost 70 per cent of the fatal and over 50 per cent of the disabling injuries to workers happen off the job.

The major problem in an off-the-job program, according to companies, is developing proper attitudes in employees. Any attempt to change customs, habits and practices is unquestionably difficult. However, off-the-job programs through the years have proved successful.

What are the rewards of off-the-job programs? (1) Reduced lost time to employee and employer from industrial injuries; (2) reduced lost time to employee and employer from off-the-job injuries; (3) creation of safe attitudes among workers which will carry over to their families; (4) contribution to development of a general public safety attitude which will reduce the community's over-all problems and expenses from accidents.●

WHERE DO YOUR KIDS PLAY?

At left is the cover photo of a new booklet, "Where Do Your Kids Play?" from NSC's Home Department. The new booklet, well illustrated with photographs, points out the dangers to children who play in unsafe places such as quarries, railroad right-of-ways, construction areas, near water and in traffic.

It also offers some concrete ideas for parents and for civic groups on getting safe play areas for children.

Order from National Safety Council. Stock Number 599.36.

Prices:
50—$.06 each
500—$.055
1000—$.05
5000—$.04
10,000—$.037
20,000—$.035.

Ten per cent discount to NSC members.

Coming Events

• The National Water Safety Congress Annual Meeting in Omaha, Neb., June 20-21 at the Sheraton-Fontenelle Hotel.

Program includes nationally known speakers – boat parade – water ski show—water ballet—marine fire extinguishing demonstration—marine exhibits.

• Tenth Annual Conference of the Conference for National Cooperation in Aquatics, Nov. 16-18 at Yale University in New Haven. Chairman of the conference is Richard L. Brown, assistant director, Safety Services, Water Safety, American National Red Cross.

One project of C.N.C.A. (composed of national organizations interested in aquatics) is developing local aquatic committees composed of local affiliates of national groups. C.N.C.A. has prepared a guide for persons who desire to develop a community aquatic committee.

To grip slippery capsized boat, lock hands.

Flooded canoe won't sink. You can climb in, calmly paddle to shore.

Boat is your best preserver. One hand on boat's edge will support you.

Stick with the Ship!

A MAN overboard is more likely to survive if he clings to his boat than if he swims toward land. Countless good swimmers have drowned on their way from capsized boat to shore, whereas those who stayed behind were rescued.

Most boats, wood or metal, won't sink. They are your best life preservers. A wooden rowboat, completely flooded, will support from 10 to 24 persons hanging on the sides, a 16 foot canoe, from 6 to 12 persons.

If you fall overboard or if your boat capsizes, try not to panic. Get to your boat as soon as possible and hang on. Here are three ways to stay afloat:

• *If the boat overturns, lock hands with another person over the boat's bottom.* This gives you a better grasp and helps prevent fatigue.

Don't repeat the tragic experience of 10 boy campers and an adult leader who tried to hang on the slim edge of a capsized canoe with their fingertips. They clung to the canoe until their fingers became numb from cold. Then one at a time they drifted away and sank.

• *If your canoe capsizes, first right it. Then grasp the edge, sink to a point just above your nose and hand paddle slowly to shore.*

• *If the boat fills up, simply sit in the bottom and hand paddle to safety.*●

Readers Tell Us—

Gas mystery solved

Recently I was cleaning my oven with ammonia as I always do. There was one spot which was not yielding to cleaning and I took some cleanser at hand and started rubbing with that. Immediately a very distressing gas permeated the kitchen. My sister and I spent many valuable minutes trying to locate the source of the difficulty and finally gave up.

It was of great interest to me, therefore, to read in your excellent publication that the combination of a cleanser with chlorine bleach and ammonia makes a very toxic gas. Cannot something be done to encourage the manufacturers of the bleach to put a warning on their cans?

CONSTANCE REEDER
Wilmette, Ill.

Miniature cars—bouquets and brickbats

I read with great interest the article "Little Cars with Big Danger" (fall, 1959) written by Jean Carper. Miss Carper has done an outstanding job in describing the dangerous go-cart fad.

It seems appalling to me, when we are all trying to improve driving standards by means of driver licensing and driver education, to see little children too young to be depended upon for safe performance on a bicycle encouraged to race in motor vehicles. After this introduction to the motor vehicle what can we expect of these youngsters when during the difficult adolescent years they will flock on to our streets and highways behind the wheels of our high powered modern automobiles.

I think that it is only fit that the National Safety Council has taken the lead in trying to squelch this dangerous craze. I think the information contained in this article should be brought to the attention of every parent and teacher in the country.

E. R. KLAMM
Skokie, Ill.

I was shocked (your) organization would print such a pack of half truths and misinterpretations. . . . Look into statistics at regularly run tracks for both midgets and karts. . . . You will find the death rate is very low if any at all and that compared to 400-500 juvenile bicyclists killed each year, it is a blessing. . . . Maybe we had better stop buying bikes. . . . Rather than condemn (karts) why not tell people how to handle these karts and midgets in the safest manner?

BARBARA J. MASTRI, Secy.
San Diego Formula K
Racing Association

A snake's identity

Your article pointing out dangers in pets ("Wild Pets," winter, 1959) is interesting.

But, before you recommend snakes as pets, teach people how to identify the poisonous variety. Once, as a boy, I came upon a nest of squirming baby snakes which I promptly scooped up and took home. Thinking they were water snakes I put them in a bowl of water—and fortunately too. They died before someone identified them for me as rattlesnakes!

J. M.
Longmont, Colo.

Fire from a wasp's nest

Recently a near tragedy in my home almost resulted in a serious fire. Strangely enough the cause of this fire would have been the nest of a common mud wasp or dirt dauber as it is sometimes called.

When the first fall chill arrived I took the normal precautions before putting my heating plant into operation such as checking pipe unions for leaks, removing accumulated dust that could act as fuel, checking automatic "no flame" safety device and a general visual check of the entire heating unit.

After completing the check I then lit the pilot and turned up the thermostat until the burners went into operation. All appeared to be normal. Later in the day I noticed the smell of burning rubber. I traced the odor to my heating plant and found a flame about three feet long coming from beneath one of the burners.

After removing the defective burner I found, on close inspection, that a mud wasp nest was causing a back pressure causing the gas to be exhausted through the vents. The odor of gas *was not* evident at any time before the vents were ignited. The obstructions were not visible through the vent ports and were not known to exist before the burner was removed.

It appears to me that this hazard would be more common in home heating systems where part of the plant is most likely to be exposed to household pests.

HOWARD F. DUSON
Camden, Ark.

filed in U. S. under F 153 p

how to prevent POISONINGS

by Harold Jacobziner, M.D.

IF ANY significant gains are to be made in the prevention of accidental poisonings, we must know how poisonings happen, where, when, to whom and why. Populations at risk, injurious agents, and unsafe environments must be identified and defined.

To obtain such information, the New York City Poison Control Center is gathering data on a continuing basis on all reported incidents. Data are analyzed by type of poison; age, sex, and color of patient; locale; season; mode of occurrence; type of activity at time of accident; supervision; contributing and related factors; severity; whether self-administered; type of treatment; symptoms; amount ingested, and many other factors. The household interview questionnaire being used contains more than 40 questions about the poisoning.

From March 9, 1955, to the end of December, 1958, 23,862 incidents of poisonings were reported. More than 300 individual products were the causative agents. Of these, internally taken drugs caused nearly 50 per cent of all poisonings, barbiturates and aspirin being the main offenders. Household preparations were the second leading cause.

Dr. Jacobziner is assistant commissioner, Maternal and Child Health Services, New York City Health Department.

This article is condensed from "Causation, Prevention and Control of Accidental Poisoning" from the Journal of the American Medical Association, Nov. 28, 1959. And printed here with permission.

Type of Poisoning

Of all poisonings 54.7 per cent occurred in persons under 20 years of age. Internally taken drugs, household preparations, and externally applied drugs and cosmetics, were responsible for 72.1 per cent of all reported poisonings in this age group.

Young children constitute a highly susceptible and vulnerable group. Children under 5 years constitute about 8 per cent of the total population of New York City, but they contributed 46.2 per cent of all poisonings reported at all ages.

Of the 13,069 poisonings reported in persons under 20, the under-5 age group accounted for 84.4 per cent of all cases. In persons under 20, children aged 2 contributed 30.8 per cent of the total poisonings in this group. One-year-old children followed closely behind with 27.9 per cent of poisonings. Children aged 1, 2, and 3 contributed 73.3 per cent of all reported poisonings in the under-20 age group (see table). The high frequency of poisonings in the first four years of life is undoubtedly related to a lack of adequate supervision, lack of caution and experience, careless handling and storing of materials, and ready availability and accessibility.

Growth, Development, and Type of Poison.—The type of poison varies with a child's stage of growth and development. Children of one year of age and under are likely to ingest poisons found at low levels, on the floor, under the sink, and on low shelves. They are thus most likely to ingest household preparations such as cleaning, sanitizing, and polishing agents; solvents; and pesticides. The 2 to 4 year old, more mobile and able to climb to higher places, is more likely to ingest poisons stored at higher places such as "internally taken medicants" found in medicine cabinets and drawers, on top of bureaus, open shelves, television sets.

Leading Toxic Agents.—Five leading products were responsible for 30 per cent of the total poisonings in this group. Thus, had ordinary precautionary measures been used in storage and handling of these five substances alone, nearly one-third of all poisonings in persons under 20 might have been prevented.

Aspirin accounted for 2,061 cases, 16 per cent of the total. Flavored aspirin for babies was most frequently

Poisonings in Persons Under Twenty Years of Age in New York City, 1955-1958

Type of Poison	Age, Yr. Under 1	1	2	3	4	5-9	10-14	15-19	Total	%
Internally taken medicaments	108	602	1,565	941	333	206	171	522	4,448	34.0
Aspirin	28	183	864	553	167	59	49	158	2,061	15.7
Barbiturates	10	45	100	46	22	23	34	98	378	2.9
Other	70	374	601	342	144	124	88	266	2,009	15.4
Externally applied medicaments	94	332	302	139	57	103	45	120	1,192	9.1
Cosmetics	58	214	259	89	31	19	7	22	699	5.3
Household preparations	127	928	670	235	115	109	42	121	2,347	18.0
Bleaches	28	222	179	69	39	31	19	72	659	5.0
Lye	8	60	55	48	29	22	7	11	240	1.8
Other	91	646	436	118	47	56	16	38	1,448	11.1
Solvents	38	317	208	60	26	32	14	41	736	5.6
Turpentine	8	69	46	11	4	9	2	6	155	1.2
Kerosene	9	78	44	9	5	3	1	3	152	1.2
Other	21	170	118	40	17	20	11	32	429	3.3
Insecticides	73	321	226	82	49	45	4	39	839	6.4
Rodenticides	28	133	90	48	22	15	3	21	360	2.8
Miscellaneous	153	787	722	315	139	199	77	56	2,448	18.8
Lead	4	120	184	89	28	25	3	0	453	3.5
Other	149	667	538	226	111	174	74	56	1,995	15.3
Total	679	3,634	4,042	1,909	772	728	363	942	13,069	
%	5.2	27.9	30.8	14.6	5.9	5.6	2.8	7.2	100.0	

incriminated, chiefly because of its common use in the home. The most frequent victims of aspirin poisonings were children 2 and 3 years old. Children these ages contributed 1,417 cases or approximately 69 per cent of all aspirin poisonings in the under-20 age group.

Bleaches caused poisoning in 659 cases in persons under 20. Children 1 and 2 years old accounted for over 60 per cent of the total in this group.

Lead accounted for 453 cases and 51 deaths, a case fatality rate of 11.2 per cent. Over 92 per cent of the patients were under 4 years of age. A sex difference was also noted, the ratio of female to male being 63:51. This higher incidence in females was noted in all ethnic groups. Only 24 (21 per cent) of the children were white, which is in marked contrast to the general population, which is about 75 per cent white.

Of the cases 65 per cent occurred during July, August, September, and October. The exact cause for the seasonal variation is still unknown.

Prevention to exposure is the best therapy. Parents should be alerted to the effects of children's chewing paint containing lead and told to avoid its use for indoor painting, and to replaster and repaint the apartment with lead-free paint. Although all reported cases of lead poisoning in children in New York City resulted from ingestion of painted wall plaster or paint from window sills and paint droppings from ceilings and walls, attention has recently been called to glazed dishes as a possible source of lead poisoning. It is puzzling why lead poisoning, which causes more deaths than any other type of accidental poisoning, does not receive the attention it deserves.

Barbiturates: While over 17 per cent of all poisonings at all ages are due to barbiturates, these were responsible for only 3 per cent of all poisonings in persons under 20. A total of 378 incidents was reported in this age group. The highest incidence occurred in those aged 2 and 3 (nearly 39 per cent of the total). The medicament was usually prescribed for an adult of the family, often grandparents, and obtained by children from pocketbooks, medicine cabinets or low shelves. Five fatalities resulted from ingestion of barbiturates by children in this group.

Lye was responsible for 240 incidents, 2 per cent of all poisonings in persons under 20, the highest incidence being in those aged 1 to 3 years, 68 per cent of the total reported. While there were no fatalities in this series, esophageal burns and strictures were common.

Methyl salicylate and carbon tetrachloride together caused 229 incidents and 23 fatalities. These hazardous products, could easily be replaced in the home by much safer and equally effective substitutes.

Influencing Factors

The relation of availability to accidental poisoning is well illustrated by the increasing number of poisonings due to tranquilizing agents. In 1955 only 9 such incidents were reported; in 1958 there were 273. Again the highest incidence was in children aged 2.

In a random sample of 1,000 poisonings in persons aged under 20 reported during 1958, 83 per cent of the substances were placed by adults where they could easily be reached by children. The kitchen was the most dangerous place, accounting for 30.2 per cent of all the poisonings. The bedroom was the place in 24.4 per cent and the bathroom in 10 per cent.

Original Container—Of the families interviewed 20 per cent did not consider the toxic agent involved in the poisoning as hazardous. In 36.7 per cent of the poisonings the agent was not in its original container. This varied greatly with the toxic agent involved. Internally taken and

externally applied medicants were generally in their original containers, but the reverse was true of household products—bleaches, insecticides, rodenticides, petroleum distillates.

These were frequently placed in utensils such as cola bottles, drinking glasses, mayonnaise jars, saucers, and milk bottles. Many substances such as benzene, turpentine, and carbon tetrachloride were left after use in household utensils and often mistaken by children for food or water. Certain groups buy large quantities of a product and redistribute it in unlabeled household containers to other families in the tenement house.

Characteristics of Families of Children Involved in Poisonings.—The more economically deprived areas had the highest incidence. Nearly 32 per cent of the fathers were laborers. The educational level of the family was classified as "medium" in 57.6 per cent of the cases. This was in close correlation with the socioeconomic level, which was reported as "medium" in 56.3 per cent and "low" in 25.6 per cent of the cases.

At the time of the accident, the child was under direct supervision of an adult family member in 72.6 per cent of cases. The accident happened, however, with lightning rapidity when the adult member was distracted to answer the doorbell or a telephone call or the child strayed into a different room.

Time of Day.—In this group 75.3 per cent of all poisonings occured between 6:00 a.m. and 5:00 p.m. Except for lead, possibly aspirin, napthalene, and Christmas-tree ornaments, there was no seasonal pattern in the type of poison ingested.

Recognition, Treatment and Prevention

Signs, Symptoms, and Treatment of Poisonings.—Symptoms most frequently encountered were burning in mouth and throat, vomiting, nausea, abdominal pains and stupor. In 42 per cent no signs or symptoms were reported. Only 5.2 per cent of the poisonings were classified as severe, 57.5 per cent mild, and 21.7 per cent of moderate severity. Nearly 49 per cent remained in the hospital up to three days and another 16 per cent between four and seven days.

Fatalities.—Seventy deaths occurred in 13,069 patients under 20 years old, about one fatality for every 200 nonfatal cases. The fatality rate is heavily weighted with lead poisoning, which contributed 51 deaths, nearly 73 per cent of all fatalities in this group.

Preventability.—Except for attempted suicides, nearly all reported incidents could have been prevented by ordinary precautionary measures.

Antidote Myth.—There is, unfortunately, a widespread belief that an antidote is available for every type of poisoning. There are only a handful of specific and effective antidotes. Lacking specific antidotes the most effective plan is rapid elimination of the toxic substance before it is absorbed. This can be accomplished by dilution and evacuation, induced vomiting and prompt gastric lavage, except in cases of poisoning with corrosives, kerosene and other petroleum products and when the patient is in deep coma or having convulsions.

Comment

Our data indicate that children involved in accidental poisonings are not significantly different physically or mentally from the "average" child. Accidental ingestion was closely correlated with the age of the child, the accessibility of poisonous substances, socioeconomic conditions, and lack of direct adult supervision at time of occurrence.

The accident was due in the main to the interaction of an inexperienced, uncautious host, a potentially toxic agent, and an unsafe environment. This combination makes an accidental occurrence almost inevitable. Many of the families interviewed were unaware that the agents involved were hazardous, or of the danger in the storage and handling of products.

Other contributory factors were the transfer of toxic substances from the original container to a household utensil. Placing containers of similar size, shape, and color and with similar labels adjacent to one another in medicine cabinets has potential hazards. A mix-up in identity often follows. The evil practice of giving children handbags which contain medicaments to play with is also a frequent source of poisonings. The inadequate labeling of household products which contain toxic ingredients often has grave consequences.

The management and treatment of poisonings is an important responsibility of a poison control center, and these have resulted in the saving of many lives and countless disabilities, an important facet of secondary prevention. The chief focus now, must be on primary prevention, the total prevention of accidental poisonings. This can best be accomplished by reliable education directed to all levels. Further training of interns and residents in the management of poisonings and a careful and detailed scrutiny of existing hospital emergency room procedures is needed. Education should begin at the undergraduate level in all medical schools and schools of nursing and pharmacy.

The practicing physician can make a significant contribution in solving the poisoning problem. He has knowledge of the cultural, biological, physical, and social environment of the families he serves. He also knows the children's stage of growth and the habits and attitudes of the adult members.

He must appoint himself as a one-man poison control center to his patients. First, he should inform himself about the various hazards associated with drugs and household preparations, the epidemiology of poisonings, the dangers associated with improper storage and handling, and the population at highest risk in the same manner as he acquaints himself about diagnosis, therapy, and prevention of diseases.

During home and office visits the physician can and should provide guidance on the poisonings most likely to occur at a given age and stage of development and how to prevent them. His medical record should include a specific inquiry about poisonings in the patient and the family and their mode of occurrence.

The physician has an unparallel opportunity, during home visits, to

observe possible existing hazards, to pinpoint them, and to advise and motivate the family to eliminate the existing hazards promptly.

The physician's waiting room should include informative and reliable literature and visual aids on the prevention of accidental chemical poisonings. A safety check list may also profitably be distributed to parents.

At the New York Poison Control Center, our safety and accident prevention program, of which poison control is but one facet, is predicated on the assumption that education is the most potent weapon to control and prevent accidents. All mediums, the press, radio and television, are effectively utilized. Outdoor advertising companies and transportation facilities have provided free display space for signs and posters. Material is disseminated through schools, clinics, child health stations, drugstores.

In spite of gains, the full potential of public education has not yet been fully exploited. It requires collective efforts of the entire community, physician, pharmacist, public health worker, nurse, hospital staff member, pharmacologist, engineer, industrialist, housing authority, law enforcement officer, social scientist, lawyer, psychiatrist, educator, and environmental sanitarian. Legislation relating to dosage, packaging, standardization, and proper labeling of poisonous substances is part of the educational program and should be used as an educational device and not merely as an enforcement procedure.

While proper labeling of a toxic substance, as recommended by the A.M.A. Committee on Toxicology, is exceedingly important, sole reliance must not be placed on it, since many who are subject to accidental poisonings cannot read.

Manufacturers of household products and pharmaceutical companies must carry on, in addition to sales programs, an equally vigorous educational safety campaign. They must also continuously seek to substitute nontoxic ingredients for hazardous ones and to design "safer" containers.

The educational program must be based on facts, accurate, reliable, devoid of overdramatization, simply told, and pinpointed to vulnerable groups and specific hazards.●

"Too much" is poisonous

by Harold R. Hoyle

During the 1940's, a number of cases of accidental carbon tetrachloride poisoning were reported in various parts of the nation. Carbon tet, as many now know, is an efficient, but comparatively toxic, cleanser. If it is used to clean a rug in a poorly ventilated room, or poured over mechanical equipment in a wash basin, it produces fumes which can sicken a person.

Though the toxicity of carbon tet attracted widespread attention in those days, its hazards were well known to industry. The search for a successor requiring less care in handling was already under way when the public first started encountering trouble.

The solution appeared deceptively simple. In what seemed to be almost no time, a safer substitute—inhibited 1,1,1 trichloroethane—was put on the market by our company.

Many persons did not realize that such a quick substitution was actually the result of years of research. What is more, the development of the substitute was hastened by a comparatively new aspect in the chemical industry: biochemical research.

Here is an example of how the biochemist can help a homemaker. If she needs a cold cleaning agent for rugs, fabrics and other household items she sometimes chooses between chlorinated solvents and petroleum-based solvents. For many years, it was not an easy choice to make. Each type had its advantages—and its disadvantages.

Some chlorinated solvents such as carbon tet have a low fire hazard but are relatively high in toxicity. Petroleum-based solvents—such as gasoline and naphtha—are low in toxicity, but can present a formidable fire hazard.

Biochemists discovered that 1,1,1 trichloroethane was a chlorinated solvent with an unusually happy combination of qualities.

Toxicological research revealed that this solvent was comparatively low in toxicity. Other research had shown that 1,1,1 trichloroethane was a good solvent for common greases and oils and had a low fire hazard. The product then went on the market under the trademark, Chlorothene.

Such successes do not mean that it is possible to eliminate toxicity. All materials can exhibit poisonous properties if contact with them is great enough.

Biochemists define toxicity simply as "too much" and like to cite this case:

A severe stomach upset occurred, characterized by nausea and vomiting. The victim was never again able to even look at the material without nausea. The material, obviously, was one that should be handled carefully because of its toxicity. What was it? A quart of pink ice cream gulped down at one sitting by a 10-year-old boy.

Harold Hoyle is with the Biochemical Research Department of The Dow Chemical Co.

THE NATIONAL ACCIDENT FATALITY TOLL

	1959	1958	Change
ALL ACCIDENTS	91,500	90,500	+1%
Motor-vehicle	37,800	37,000	+2%
Public non-motor-vehicle	16,500	16,500	0%
Home	26,500	26,500	0%
Work	13,800	13,300	+4%

Note: The motor-vehicle totals include some deaths also included in work and home. This duplication amounted to about 3,100 in 1959 and 2,800 in 1958. All figures are National Safety Council estimates.

All Accidents

Killed—91,500, 1 per cent up from 1958.

Injured—9,300,000.

Cost—$12,600,000,000. Includes wage loss, medical expense, overhead cost of insurance for all accidents, interrupted production schedules, time lost by workers other than the injured, etc., due to work accidents and property damage in traffic accidents and fires.

Deaths of children under 5 years numbered approximately 6 per cent more than in 1958. Among children 5-14 years old the death total was up 4 per cent. Changes in adult groups were: 15-24 years, up 3 per cent; 25-44 years, down 2 per cent; 45-64 years, up 4 per cent; 65 years and older, down 3 per cent.

Fatal falls numbered the same as in 1958—18,300; burns went up 1 per cent (in addition to a classification change) to 7,400. Drownings were down 1 per cent at 6,500. Fatal firearms accidents went up 1 per cent to 2,200.

The 1959 death rate per 100,000 population was 51.9.

Work Accidents

Killed—13,800. This was 500 more than the 1958 total.

Injured—1,950,000, 150,000 up from 1958.

Cost—$4,100,000,000. Includes cost of interrupted production schedules, time lost by workers other than the injured, etc., as well as wage loss, medical expense and the overhead costs of insurance.

Total all-industry employment was about 3 per cent more than in 1958.

Railroad employee fatalities totalled 106 in the first eight months of 1959 down 9 from 1958. The eight-month injury total was 9,194 up 10 per cent from 1958.

There apparently was an increase in the all-industry disabling injury rate.

Worker Accidents

Killed—43,600, up from 42,500 in 1958. On job, 13,800; off job, 29,800.

Injured—4,300,000, up 5 per cent from 1958.

Time lost, including indirect, amounted to 285,000,000 man-days, equivalent to the shut-down of plants with more than 1,000,000 workers.

Public Accidents

(Not Motor Vehicle)

Killed—16,500—no change from 1958.

Injured—2,050,000.

Cost—$800,000,000.

Decreases occurred in the 15-24 and 25-44 year age groups; increases in the 45-64 and 65 and over age groups; no change in the 0-4 and 5-14 age groups.

There were sizeable decreases in railroad, water transport, and firearms deaths in 1959. Increases were recorded for air transport and other specified fatalities.

Railroad Accidents

Eight-month death total—1,346 compared with 1,437 in 1958. Injuries numbered 13,127 compared with 12,436 in 1958.

Grade crossing deaths decreased 7 per cent to 728 while injuries totalled 1,961, up 5 per cent.

Passenger deaths numbered 8, compared with 9 for the same months of 1958.

Trespasser deaths numbered 445, a decrease of 8 per cent from 1958.

Airplane Accidents

There were eight fatal accidents during 1959 in the domestic passenger-carrying operations of scheduled air carriers, in which 198 passengers and 28 crew members were killed. The passenger death rate per 100,000,000 passenger-miles, based on preliminary information, was 0.65.

Home Accidents

Killed—26,500—no change from 1958.

Injured—4,000,000.

Cost—$900,000,000.

A decrease in deaths in the 65 and over age group offset increases in the other age groups.

Decreases were recorded in deaths from gas poisonings and other specified causes. There were increases in deaths from solid and liquid poisonings, burns and firearms. Deaths from falls and mechanical suffocation did not change.

Fire Losses

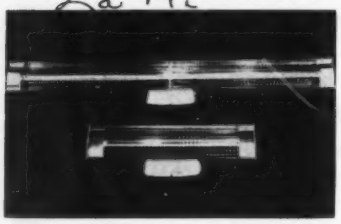
The value of property destroyed by fire in 1959 was $1,047,000,000, or 1 per cent less than in 1958.

It's New . . .

HOME SAFETY PRODUCTS

Publication of product announcements in this section should not be construed as endorsement or approval by the National Safety Council.

La 19i



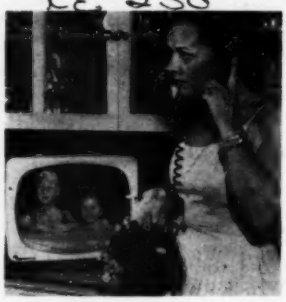
Infra-Safe Heaters

Two new models have been added to the line of Infra-Safe infrared radiant heating units. The heaters will not give electrical shocks even if a metal object is inadvertently inserted because there are no exposed electrical parts, according to the manufacturer. It also is reputed to emit no ultraviolet rays and cannot cause any "sunburn."

The heaters, designed for installation either on wall or ceiling, are advertised to produce heat output that is more direct and faster than that of convection or forced air heaters.

Hanovia Lamp Division, 100 Chestnut St., Newark, N. J.

Te 230



TV Babysitter

With a closed circuit television installation, a mother can answer the phone or take care of other duties and still keep an eye on children's play areas.

The camera can be mounted on the roof and focused on the play area. It then feeds the picture into an unused channel in the regular home TV receiver. The system could also be applied to children's bedrooms. Cost would be approximately $1400, according to the manufacturer.

Dage Television Division, Thompson Ramo Wooldridge Inc., West 10th St., Michigan City, Ind.

Sp 66 ws

Lifesaving sound

This swimming pool alarm was designed to prevent drownings that happen when children fall into unattended pools. System includes a sensing element (small disc in center) that is encased in protective box (right) and mounted on pool wall a foot below water level.

Whenever an object falls into an unattended pool, the sensing element detects sound vibrations caused by the splash, then electronically relays signal to remotely located alarm panel (left). The system can be installed in new or existing pools for less than $200, according to manufacturer.

Minneapolis-Honeywell Regulator Co.

Ho 751

Flashlight for homemakers

Long-lasting flashlight runs for nearly three months on a single recharging which is accomplished by leaving it plugged into a wall socket overnight, according to the manufacturer. Never needs dry cell batteries.

It provides homemakers with a continuous direct light for performing chores. It has side magnetic bars which enable user to attach flashlight to metallic surfaces, leaving hands free. It also has a strap which hangs over a hook or wrist.

Palmer, Codella and Associates, Inc., 420 Madison Ave, New York 17, N. Y.